Listing of Claims:

Claims 1 – 55 (canceled)

Claim 56 (currently amended) A method for wrapping a texture onto a surface of a three-dimensional virtual object, the method comprising:

(i) rendering an arbitrarily-shaped-region of the surface of the three-dimensional virtual object in response to a user manipulation of a graphical user interface device;

(ii) defining a first patch over the user-defined region, the patch being a NURBS patch;

(iii) for each of a plurality of locations in the user-defined region, mapping the location to a corresponding location in a texture according to a mapping scheme wherein points of a planar mesh are adjusted to account for a spacing of corresponding points within the first patch ~~user-defined region of the surface of the three-dimensional virtual object~~, and wherein the texture is superimposed onto a second patch based on the adjusted planar mesh; and

(iv) assigning to each location in the arbitrarily-shaped, user-defined region a graphical value associated with the corresponding location in the texture,

wherein the points of the planar mesh are adjusted to improve a quality metric associated with the spacing of corresponding points within the first patch ~~user-defined region of the surface of the three-dimensional virtual object~~, wherein the mapping scheme models at least a plurality of the points of the planar mesh as connected by mechanical modeling elements, and wherein the points of the planar mesh are adjusted to reduce an energy associated with the mechanical modeling elements.

Claim 57 (previously presented) The method of claim 56, further comprising the step of graphically rendering the virtual object.

Claim 58 (previously presented) The method of claim 57, further comprising the step of modifying a voxel representation of the virtual object according to the graphical values assigned in step (iv).

Claim 59 (original) The method of claim 56, wherein the texture comprises a tiled pattern.

Claim 60 (original) The method of claim 59, wherein no boundary of a tile of the tiled pattern is constrained to align with a boundary of the user-defined region.

Claim 61 (previously presented) The method of claim 59, further comprising the step of graphically rendering the virtual object with the tiled pattern applied within the user-defined region.

Claim 62 (original) The method of claim 56, wherein the graphical value is a color value.

Claim 63 (original) The method of claim 56, wherein the texture comprises an embossing pattern and wherein the graphical value represents an adjustment along a normal to the surface of the virtual object.

Claim 64 (previously presented) The method of claim 63, further comprising the step of graphically rendering the virtual object with the embossing pattern applied within the user-defined region.

Claim 65 (previously presented) The method of claim 56, wherein the mechanical modeling elements comprise one or more members selected from the group consisting of springs, dashpots, and sliders.

Claim 66 (previously presented) The method of claim 56, wherein the mechanical modeling elements comprise springs.

Claim 67 (previously presented) The method of claim 66, wherein the points of the planar mesh are adjusted to minimize the energy associated with the springs.

Claim 68 (canceled)

Claim 69 (previously presented) The method of claim 56, wherein the mapping step does not require geometric projection.

Claim 70 (currently amended) An apparatus for wrapping a texture onto a surface of a three-dimensional virtual object, the apparatus comprising:

a memory for storing code that defines a set of instructions; and

a processor for executing the set of instructions to:

(i) define a first patch over an arbitrarily shaped, user-defined region, the first patch being a NURBS patch;

(ii) for each of a plurality of locations in the arbitrarily-shaped, user-defined region of the surface of the three-dimensional virtual object, map the location in the user-defined region to a corresponding location in a texture according to a mapping scheme wherein points of a planar mesh are adjusted to account for a spacing of corresponding points within the first patch ~~user-defined region of the surface of the three-dimensional virtual object~~, and wherein the texture is superimposed onto a second patch based on the adjusted planar mesh; and

(iii) assign to each location in the user-defined region a graphical value associated with the corresponding location in the texture,

wherein the points of the planar mesh are adjusted to improve a quality metric associated with the spacing of corresponding points within the first patch ~~user-defined region of the surface of the three-dimensional virtual object~~, wherein the mapping scheme models at least a plurality of the points of the planar mesh as connected by mechanical modeling elements, and wherein the points of the planar mesh are adjusted to reduce an energy associated with the mechanical modeling elements.

Claim 71 (previously presented) The apparatus of claim 70, wherein the code comprises instructions to graphically render the virtual object.

Claim 72 (previously presented) The apparatus of claim 71, further comprising a graphical display on which the virtual object is rendered.

Claim 73 (previously presented) The apparatus of claim 70, wherein the mechanical modeling elements comprise one or more members selected from the group consisting of springs, dashpots, and sliders.

Claim 74 (previously presented) The apparatus of claim 70, wherein the mechanical modeling elements comprise springs.

Claim 75 (previously presented) The apparatus of claim 74, wherein the code comprises instructions to adjust at least a plurality of the points of the planar mesh to minimize the energy associated with the springs.

Claim 76 (canceled)